

	الشركة السعودية للكهرباء Saudi Electricity Company	DISTRIBUTION PLANNING STANDARD LFG-01	
	DISTRIBUTION PLANNING STANDARD Procedure To Review Load Forecast Report	ISSUE DATE: December, 2016	REVISION 00

LFG-01

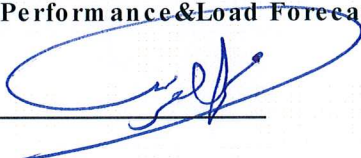
DISTRIBUTION PLANNING STANDARDS

Procedure To Review Load Forecast Report

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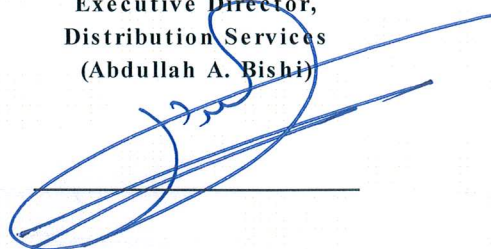


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INTRODUCTION:

The load Forecast is the mother activity for Planning. Primarily the Load Forecast Report is prepared by Each Operating Area from the Field Data i.e. Feeder reading/data , Substation /Grid loads , Spot Loads , Plot Plans , and Load transfers. It involves the manipulation and compilation of large scale data. There is a chance of error & omission during this exercise.

In order to establish the accuracy of load forecast the minute review of each format is necessary. To make sure that the basic parameters are precisely evaluated & incorporated in the report. It requires a thorough review to verify.

The report shall be screened out, with respect to the following

1.0 All the required information's / formats as mentioned in distribution planning standard "Load Forecast Guide Lines" have been duly filled and attached.

- Form 1: Summary of forecasted demand (MW).
- Form 2: Summary of forecasted energy sales (MWH).
- Form 3: Summary of required substation projects.
- Form 4: Grid stations exceeded 100% of their firm capacity during current year peak period.
- Form 4A: Grid stations exceeded 100% of their firm capacity during next five years forecast period.
- Form 5: Main distribution substations exceeded 100% of their firm capacity during current year peak period.
- Form 5A: Main distribution substations exceeded 100% of their firm capacity during next five years forecast period.
- Form 6A: Main distribution substations five years load forecast (MVA).
- Form 6B: Grid stations five years load forecast (MVA).
- Form 7: Feeders & transformers load readings.
- Form 8: Customers forecast per Districts/ Plot Plan.
- Form 9: Bulk customers with contracted load 1.0 MVA and above.
- Form 9A: List of bulk customers more than or equal 4.0 MVA (contracted load).
- Form 10: Feeders five-years load forecast

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- Form11: List of required grid station projects
- Form 12: List of required main distribution substations projects.

2.0 Substation Peak:

- Load Forecast shall reflect the peak loads in accordance with the agreed peak loads with National Grid during the reconciliation meetings.
- It should be insured that all the substations (including the ongoing and approved projects to be commissioned in coming years) have been included in the Load Forecast and proposals of load transfers to give the relief to the existing over loaded stations have been incorporated.

3.0 Feeder Peak Loads:

- Assessment of peak loads for feeders, transformers and grids/ substations from the load reading data sheets is correct.
- Check that the assessed peak loads from the weekly/monthly load readings are consistent with the agreed loads with national grids.

4.0 Growth Factors:

- Growth factors used for a particular substation/area are correctly calculated by the formula given in the guideline. Check the consistency of the growth factor(s) with the historical growth of the area.
- If there is extraordinary growth in the area and special growth factor has been applied then reason to the fact is mentioned in the remarks column.

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5.0 Spot Loads (Bulk Customers):

- All the bulk customers have been reflected in the load forecast.
- Bulk Customer's loads indicated are according to the approved list. Verify the correctness of year-wise breakup (if applicable).
- Demand factors have been applied on the total connected load of the customers.
- Loads indicated are on the correct feeders/substations.
- Loads proposed to be supplied from new substations are correct in accordance with year of energization of substation.

6.0 Plot Plans Data:

1. Average load per lot is in accordance with DPS-01 " Estimation of Customer Load Guidelines".
2. Total demand of a plot plan in KVA is correctly calculated, corresponding to the total number of lots and Demand factors have been applied on the connected load of the plot plans.
3. Number of lots to be electrified shall be according to the approved budget year.
4. Plot Plan data shall be updated every year and be compared with previous year so as to verify its correctness.
5. The loads of plot plans indicated in the forecast are correct with respect to feeder, substation and approved budget year.

7.0 Load Transfers :

Load transfer details for existing and newly completed substations are correct. Loads removed from different sub stations have been adjusted to other substation in the vicinity.

As a general rule the sum of load transfers in a zone/area shall be zero if all the loads have been adjusted within the zone / area.

Load transfers are not made on the proposed projects which are not still approved.

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8.0 Ongoing Projects:

Check that all the Grids/ substations projects have been included in the forecast.

The status of ongoing projects is re-checked for any delay and necessary actions are recommended.

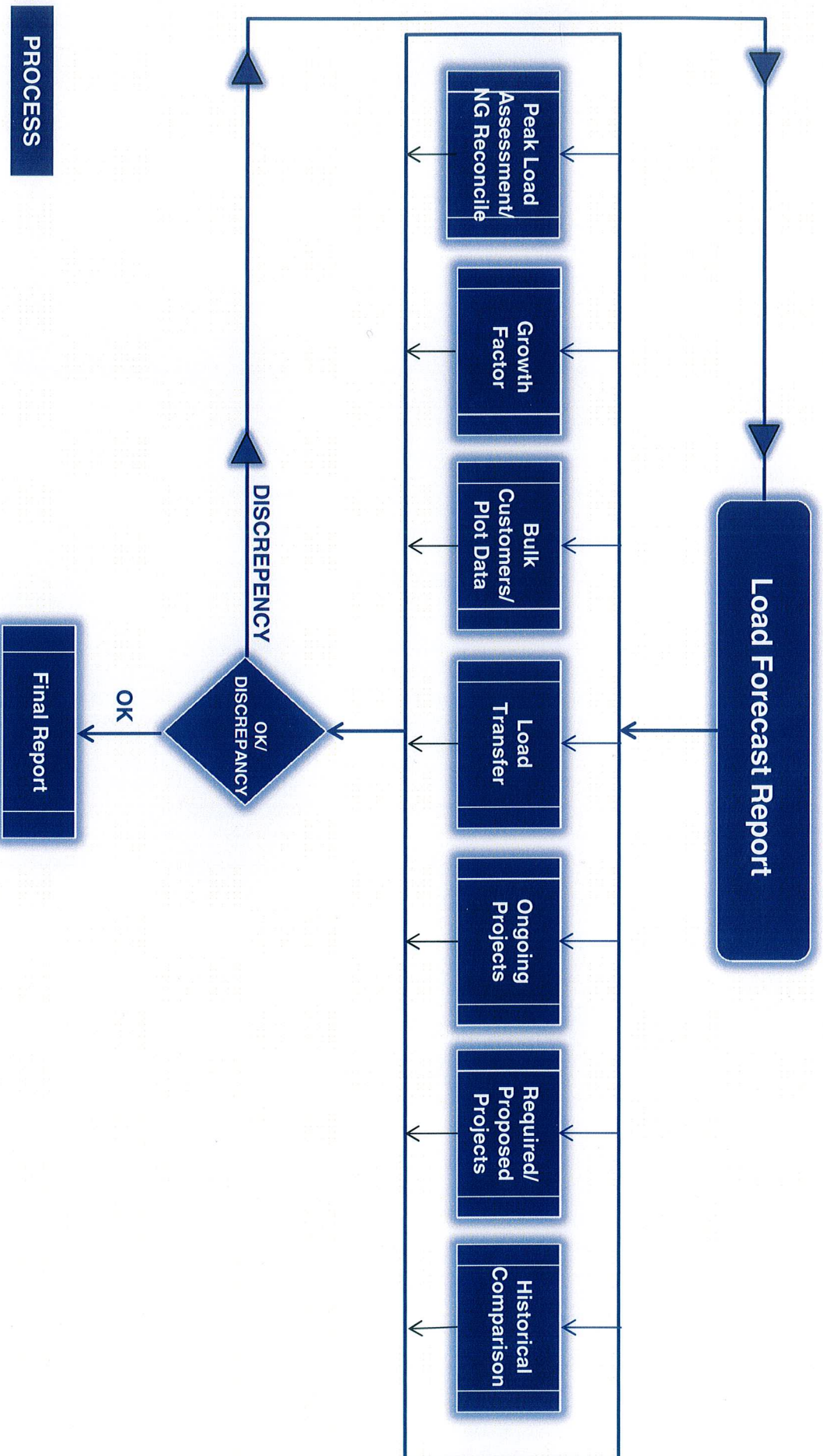
9.0 Forecast Methods / Techniques:

The method used for forecasting future loads is as per “Distribution Planning Standard Load Forecast Guidelines”.

10.0 General Screening:

- Feeders are not overloaded (i.e. loads are within the normal capacity of cable/conductor)
- Transformer load reading shall be equal to or less than the feeder sum.
- Transformers capacities as well as firm capacities of substations are correctly indicated.
- Coincident factors are applied correctly. Coincident factor shall not be greater than one.
- Overall load of different departments are consistent with the previous forecast.
- Necessary actions have been taken / proposed against critically loaded sub stations for the current year and future.
- Accuracy of Load Forecast Sheet is attached (Annexure-A).
- Statistical Data Sheet is attached (Annexure-B)

REVIEW PROECEDURE OF LOAD FORECASTING



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ANNEXURE-A

% Accuracy of Forecast (Electricity Departments)				
S.NO	Electricity Department	Actual 201_	Forecast 201_	% Accuracy
1				
2				
3				
4				

ANNEXURE-B

% Accuracy for Transmission/Distribution Substations				
S.NO	Area Name	Actual 201_	Forecast 201_	% Accuracy
1	COA			
2	EOA			
3	WOA			
4	SOA			
Aggregate Total				